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THE IMPACTS OF BUYERS' INTENTIONS TO PURCHASE ONLY NON-CAGE EGGS FROM 2025

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EXECUTIVE SUMMARY

A number of multiple retailers in the UK have recently announced that they will stop selling eggs from enriched cage systems from the start of 2025. At this stage, certain key issues are unclear. These include the extent to which there will be significant growth in barn egg production and thus the likely impact on the free range egg production sector.

The overall aim of this study is to provide clarity on the current thinking of these retailers and to assess the likely implications of changing purchase policies. To achieve this, meetings were held with various retailers between March and May 2017. Participants were assured that their individual responses would be used for aggregation purposes only.

Recent statistics indicate that the retailers that have recently made a commitment to non-cage eggs from 2025 represent around 67% of the overall UK grocery market at present. It has been assumed that this same percentage reflects their overall share of retail sales of eggs although it is recognised that some may over- or under-trade. On the basis of the responses provided, enriched cage eggs are currently estimated to account for a weighted average of 35% of sales by these retailers. Free range (including organic) represents the remaining 65% since at present, barn egg production hardly features.

Most of these retailers forecast some growth in the market share of free range due to changing buying habits between 2017 and 2025. However, there were some differences of opinion on this point and an acknowledgement that buying habits over this period could be affected by a range of factors, including changes in the general economic outlook of the country.

At present these retailers intend to offer barn eggs in future for their 'value' lines, although not all have completely dismissed the idea of a move to free range only in 2025. There are some question marks over consumer understanding of the barn system and over its longer-term prospects. The standards which would be required for barn production are not yet clear but retailers are beginning to work with their suppliers to develop plans for the future.

Retailers generally agree that customers who are still buying enriched cage eggs as 2025 approaches will switch to barn eggs when these become the cheapest option. On this basis, it is concluded that changing retailer policies will have little or no direct effect on the free range sector in 2025.

All retailers currently rule out a switch to non-cage for all of their egg products. This is mainly because of the number of different products and suppliers and since egg may be only a very minor ingredient in some foods. Although retailers' commitment to non-cage eggs specifically relates to own-brand, it is considered unlikely that any tertiary or packer-branded eggs from enriched cages would be offered after 2025. A possible exception to this is short-term supply to help manage the changes needed at the end of 2024.

A series of assessments has been made in this report of the likely impacts of changes in retailer purchasing policies and consumer preferences between 2017 and 2025. These have assumed an overall increase in the UK human population by 2025, but no changes to egg consumption per person, or to the percentage of eggs sold by the retailers who have recently committed to non-cage eggs only.

It is estimated that some 4.3 million cases of enriched cage eggs currently produced per year will be displaced as a result of retailers 'non-cage' policy. The majority of this seems set to be replaced by barn egg production and between 4.0 and 5.9 million extra barn egg production places will be required in 2025. This is based on retailers' value line eggs representing between 20 and 30% of the total at that point.

For free range, some additional production is expected to be needed. This will be due mainly to i) increasing human population and ii) expected continued growth in free range between 2017 and 2025. The possibility of total free range sales changing (either increasing or decreasing) in 2025 when customers are offered a choice between free range and barn eggs cannot be discounted.

If there is sales growth in the free range sector of 5% within these retailers between 2017 and 2025, an extra 1.8 million free ran ge laying hen places will be required. This includes an allowance made for an expected human population growth of 6% over this period. If there is free range growth of 10% or 15% over the same period (2017 to 2025), an additional 2.7 million or 3.8 million free range laying hen places respectively will be required.

Expansion in the free range sector is likely to require a total capital cost of between £58 million (for 1.8 million places) and £122 million (for 3.8 million places), excluding the cost of the land.

INTRODUCTION

2.1 Background

A number of multiple retailers in the UK have recently announced that they will stop selling eggs from enriched cage systems from the start of 2025.

In 2016, Aldi UK was the first to make this announcement. Shortly afterwards, ASDA, Iceland, Lidl, Morrison's and Tesco made similar commitments with the same 2025 deadline. These companies follow the approach of the Co-operative, Marks and Spencer, Sainsbury's and Waitrose who already sell only non - cage shell eggs throughout the UK.

In reality, the 2025 deadline set by retailers for the move to non-cage eggs is a relatively short one for the sector as a whole to respond and for individual egg producers to consider their own plans and then implement them. It is clear that the ability to forecast egg market size and segmentation will be crucial to planning for the future. Responding to the changes required will take time and significant capital investment. During the run-up to the 2025 deadline – and afterwards - there is potential for a major imbalance between supply and demand.

A number of key issues are unclear at this stage. A fundamental one is whether there will be significant growth in barn egg production as a result of changed buying policies. Expansion of the barn egg market is likely to be popular with some egg producers because of the possibility of conversion to this system from existing enriched cage housing.

Alternatively, will some or all of the retailers concerned make the switch entirely to free range production in 2025 or at some point afterwards? A move from enriched cage production to free range would mean a requirement for a large number of new free range houses in the UK by 2025.

In addition to recent purchasing policy announcements for the future, there has been a trend towards increasing market share for free range eggs at the expense of enriched cage production. This is particularly noticeable at retail level. Finally, buying decisions made by the food service sector and in respect of egg products may also have an impact upon future egg production requirements in the UK.

2.2 Study Objectives

The overall aim of the study is to provide clarity on the current thinking of retailers, in terms of their future egg buying policies. An assessment is made of the likely implications of changing purchase policies on the UK egg production sector.

Specific priorities are to:-

- Estimate the number of displaced enriched cage shell eggs as a result of the announcements already made and to assess whether customers currently buying these eggs will switch to free range, barn or to a mix of both;
- Consider the extent to which others (smaller retailers and food service etc.) will adopt equivalent policies in future both for shell egg and egg products;
- Assess the implications arising for the sector in terms of capital costs and land requirements;
- Set out any key obstacles to meeting these requirements.

2.3 Approach

Meetings were held with four of the retailers who in 2016 announced a change in their egg purchasing requirements from 2025. These were undertaken between March and May 2017 and thus reflected their plans and intentions at that time. A series of questions was prepared for these meetings, so that retailers were asked to provide, for their own business:-

- An estimate of current market segmentation between production systems, i.e. the percentage share of cage, free range and barn (if applicable);
- Information on any recent trends in purchase habits e.g. has the market share for free range changed in recent years, what are the likely expected future trends in the coming years and what are the main factors likely to affect this;
- Views on whether they expected barn production to be part of their own-brand offer for shell eggs from the start of 2025;
- Clarification on their intentions with regard to purchase policies on egg products;
- An indication of the extent of planning undertaken to date for the 2025 deadline and the current level of engagement with egg packers and producers supplying eggs to them.

In addition to the four retailer meetings, written responses to the questions above were received from a fifth retailer which has also announced a 'non-cage' policy from 2025.

To encourage participation in the study, retail contributors were assured that their individual responses would be used for aggregation purposes only and that the report prepared would not contain retailer-specific information. This report has been structured to fulfil this commitment and to provide an overview of likely changes and the issues arising.

To get a broader perspective on changes in purchasing habits, the

intentions of a small number of food service companies were also considered. This part of the study was undertaken by reviewing company websites for information on their egg purchasing policies and by telephone calls and email exchanges. These inputs focused on their current policies and future plans both in respect of shell eggs and egg products.

From the information gathered and on the basis of current statistics, an estimate was made of the number of displaced enriched cage eggs which were likely to result from recent purchasing announcements. This figure was then equated to the likely number of laying hen places represented.

Next, an assessment was made of how the extra non-cage system places would be split between free range and barn production systems. Published and industry data on typical capital costs for new buildings and equipment were reviewed by ADAS and used as a basis for estimating the likely investment costs required within the sector in order to respond to changing requirements.

Finally, ADAS sought and obtained responses from specialist planning consultants operating in the egg sector, to understand the key legislative obstacles and issues arising from the development of new systems and the implications for converting buildings. Amongst the key areas for discussion here were planning and environmental permitting issues, costs, timescales and regional differences within Great Britain.

KEY ISSUES ON PURCHASE POLICY

3.1 Responses from retailers

This section sets out the main responses from retailers, based on meetings and other inputs and brief collated information from the food service sector.

The main questions posed to retailers, together with their aggregated responses are set out in the following points.

1. What were the main reasons for making the non-cage commitment for 2025?

Some retailers stated that this had been under review for a number of years but for various reasons, the timing had not previously been considered right.

In part, this may have been recognition of the commitment that many producers had made relatively recently to new enriched cage systems, shortly before legislative changes in 2012. It may also be linked to the recent economic uncertainties in the country particularly following the financial crisis and recession starting in 2008.

Some retailers recognised however that they had previously decided against making a full commitment to non-cage eggs and that their decision now to take this approach had been a relatively recent one.

Pressures from the general public and from non-government organisations (NGOs) were recognised as being increasingly important in instigating change in the food sector. Clearly these played a role in bringing about purchase policy changes. In general, retailers consider that NGOs with a focus on animal welfare are well-organised and influential and able to apply pressure to companies and consumers, leading to policy changes.

2. What are the current market shares for eggs from different production systems?

Eggs from enriched cage systems are now generally reported by the retailers concerned to represent fewer than half of all shell eggs sold. Most stated that sales of enriched cage eggs were currently between 30 and 40% of their totals. At present, barn egg production hardly features for these retailers and so the market share for free range (including organic) is currently between 60 and 70%.

In some cases, the reported market shares varied from these percentages. On the basis of individual responses and the application of a weighting factor according to the throughput of each retailer, the mean for all six retailers is estimated to be 65% free range to 35% enriched cage.

3. To what extent have these market shares changed in recent years and what changes are forecast for the future?

Retailers generally reported a gradual increase in their percentage share of free range eggs at the expense of enriched cage eggs in recent years. One retailer reflected that it was only 2-3 years ago that the market share for free range reached 50% and that there had been rapid growth since then. A range of different reasons were cited for this growth but retail price reductions for free range eggs and the reduced size of the price premium between free range and enriched cage eggs were both seen as contributing factors.

Forecasts for future changes in the market shares for enriched cage and non-cage eggs were mixed. Some retailers expected the free range market share to increase by a further ten percentage points between now and around 2020 (e.g. increasing from around 65% to 75%). If this trend was to continue, then certain retailers thought that the free range market share may naturally be approaching 80% by 2025.

Other retailers suggested lower levels of growth in free range and reported little evidence of growth at present. There was also a view that growth in sales of free range eggs could be curtailed or even reversed in the coming years if the general UK economic situation deteriorates and more customers look for a lower-cost alternative to free range eggs. Potential uncertainty and difficulties in the Brexit process were cited as one potential reason for this.

Some retailers thought that their customers may (in general) be more sensitive to a downturn in economic conditions than those of some of their competitors. Where this is the case, customers shopping at one retailer may be more inclined to return to buying lower-priced eggs than those at another. This could help to bolster sales of enriched cage eggs for as long as they remain on sale as a 'value' offer.

4. Do you expect to bring forward the end of enriched cage egg sales to a time significantly before the 2025 deadline?

At this stage, the general response here from retailers was 'no'.

To varying extents, retailers say that they are either working with their suppliers at present to determine mutually-acceptable timescales or they are expecting their suppliers to advise them of their own individual approach and to set out realistic timescales for completion.

There is a recognition that some egg producers are still repaying the finance they invested in enriched cages prior to the 2012 legislation change. There is a view amongst retailers that a more rapid move away from this production system (i.e. well before 2025) would therefore be difficult for producers to manage and adapt to.

However it seems likely that no retailer will wish to be accused of being out-paced by their competitors in terms of planning for and implementing the 2025 purchase policy change. As plans develop, it seems possible that there will be a return to this issue in due course.

5. What role – if any – do you see for barn production as a replacement for eggs from enriched cage systems in 2025?

Clearly, this is a fundamental issue.

Retailers generally saw the benefits of retaining a 'value' option for eggs, fearing that if they did not, they risked losing business to a competitor. Whilst the value offer could potentially be a 'standard' free range egg (as part of a two-tier differentiation), the consensus was that barn production would better meet the needs of the 'value' customer since its pricing would be closer to that of enriched cage eggs at present. Most retailers therefore expected to have barn system eggs in their stores after 2025 as the value option.

That said, not all retailers within the study have completely ruled out the possibility of switching to free range only. These appear to be in the minority but the issue is still under review for some at present.

For retailers who expect to offer barn as a value egg in future, current issues include i) production systems; ii) system longevity; iii) consumer awareness and reaction and iv) pricing. A brief review of each of these points is set out below:-

- **Production Systems.** There is a view that certain barn systems which operate to the limits of legislation may not be consistent with the highest standards of animal welfare. Retailers recognise the need to assure their customers that the systems in use are appropriate and welfare-friendly. Some retailers are currently in contact with poultry equipment and housing suppliers in order to develop and/or refine their own views on what is acceptable and what is not. In future, retailers may set their own specific requirements for barn production and these may be based on recognised industry schemes or on their own 'blue-print' standards.

- **System longevity.** There is a concern that barn systems will have only a limited lifespan, particularly if NGOs and others press strongly for a move to free range and organic (only) as opposed to barn shortly after 2025. As an example, retailers have cited the precedent of reduced demand for eggs from relatively-new enriched cages. In turn, such concerns may influence the capital costs that producers feel confident to invest in new barn production systems in the run-up to 2025.

- **Consumer awareness and reaction.** It is noted that the current UK market share for barn production is only around 2% although the system has been in use in the UK for many years. Because of this, there is still a question over the recognition and acceptability of the system and a possibility (at least) that sales of free range may increase in 2025 when barn is the only alternative. Conversely, some customers may switch from free range to barn eggs if their current motivation for choosing free range is to avoid eggs from enriched cage systems. Some retailers felt that the move away from sales of enriched cage eggs would generally not be noticed or commented upon by customers, but the need to communicate and manage information in relation to barn production was recognised. It was considered that effective management of this process would be an important determinant of the acceptability (or not) of barn egg production.

- **Pricing.** Retailers recognise the need to price barn eggs competitively so that there is a clear gap between barn and free range and also so that there would not be a major price increase for customers who currently buy eggs from enriched cage systems. Given the need to ensure very high standards of welfare in production systems for barn (which may mean increased production costs), some further discussion is likely in this area. At present, the expectation is that barn eggs may be pitched at a price that is between 5 and 8 pence per dozen above

enriched cage and around 20 pence per dozen below free range. A view was expressed that some retailers may seek to maintain the same price differential between barn and free range eggs in future as there is at present between enriched cage and free range i.e. around 25-30 pence per dozen. If this were to be the case, it would mean an increase in the price of free range eggs, compared to current levels.

6. Does your commitment to non-cage for shell eggs from 2025 cover all eggs or own-brand shell egg only?

Retailers have generally made their non-cage commitment only in relation to their own-brand eggs. Based on recent discussions, it is clear that retailers have generally also ruled out the sale of packer-branded and any other tertiary-brand eggs from enriched cages after 2025.

However some feel that enriched cage eggs which are not retailer 'own label' could play a role in the changeover process from own-brand enriched cage to non-cage, in the build-up to 2025 and (possibly) for a limited period afterwards.

Managing this process has been identified as a potentially difficult issue by more than one retailer. It is considered in more detail in section 6.2 of this report.

Retailers who are currently considering the sale of a tertiary brand enriched cage egg at around the time of the 2025 policy change appear not to consider this to be a long-term offer to customers. One stated that they believed that this would be considered unfair to suppliers of retailers' own brand eggs, who will be required to make changes to their production systems.

7. Does your commitment to non-cage eggs also extend to egg products in 2025?

Retailers' commitment is to non-cage production for shell eggs and it does not extend to egg products.

Whilst certain retailers stated that the possibility of including egg products in non-cage policies had been raised and considered, they reported a number of major difficulties at present. These include the wide range of different products sold, the vast array of different suppliers and the fact that egg may only be a very minor ingredient in some products. This is particularly a problem faced by larger retailers. By contrast, businesses with much smaller product ranges may be better-able to make such a commitment.

A further complication with regard to egg products is the possibility of different legal definitions (or no legislation) for non-cage production in non-EU countries. Whilst these may comprise only a very small percentage of the total (one retailer estimated non-EU production to be around 2% of all of its egg products), this may be difficult to exclude completely, particularly for foods specifically produced in and associated with non-EU countries.

8. To what extent are you currently engaging with suppliers (egg packers) to develop clear plans for future purchasing of non-cage eggs only from 2025?

Responses to this question varied from retailer to retailer. It was clear that some are actively engaged with their suppliers and with others in the industry at present and they expect to have much clearer implementation plans in place in the coming months. There are some trends amongst retailers towards agreeing longer-term supply arrangements with egg packers and this should help to provide reassurance to the suppliers in question and the confidence to develop their own production strategies and investment plans for the coming years.

For some retailers, it is clear that intentions and plans are still at a very early stage and that detailed discussions with suppliers are yet to take place. To varying extents, retailers are currently putting the onus on suppliers and producers to find their own ways of adapting to their stated future policies.

Where retailers expressed an opinion, they generally stated that they were finding egg packers very helpful and constructive and willing to engage with them in agreeing plans for the move to non-cage only.

3.2 Purchase policies of food service companies

Certain food service companies have recently publicly stated their intention to source and supply only cage-free eggs in future. Examples include Compass and Bookers.

Compass have a global commitment to cage-free for both shell eggs and egg products from 2025, following an initiative which aims to achieve this within the USA by 2019. Similarly, the Booker Group (which owns Londis and Budgens and was reported to have been sold to Tesco early in 2017) has stated that:- *"As consumer trends develop, so do our ranges and in this respect eggs are no different. We are fully supportive of the move to full cage-free sourcing of both branded and own-label shell eggs by 2025 which will include all 'eggs as ingredients' in our own label lines".*

As discussed in relation to retailers, an issue for wholesalers of eggs is whether any ban on the supply and sale of shell eggs from enriched cage systems will extend to tertiary brands or whether it will be limited to own-brand eggs only. Further input would be required in order to investigate this in more detail.

It has also been reported that a diverse range of other food service companies now have cage-free commitments in place. These include the Ellior Group, Spar, Costa and others. McDonald's reports that it has operated a full free range egg purchasing policy now for over 15 years and there is evidence that this trend may extend to others. For example, discussions with a major fast-food chain in the UK (anonymity maintained) revealed that they expect to be fully free range from 2020. A review undertaken by the company last year concluded that about half of their foods which contained egg were made from enriched cage production, the remainder were free range only. The anticipated cost to that business of switching from enriched cage to free range eggs had been estimated at around £30k annually.

This figure is comparatively very small and likely to be an indicator that only low volumes of eggs are used and therefore that such a switch would be relatively quick and easy to make. On this basis, it is likely that a number of other similar companies will follow suit. This may generate some extra publicity and give the impression of momentum for non-cage egg sales, although in practice the overall impact for the UK egg sector may not be substantial.

IMPACTS ON REQUIREMENTS FOR EGGS IN 2025

An important aspect of this study is to estimate the likely impacts on the egg sector of changes in retailer purchasing policy planned for 2025, together with changes in consumer purchase trends for eggs up to that same point. For both of these, there is a focus on the six largest retailers which announced changes to their purchase policies in 2016. For the record, these are Aldi UK, ASDA, Iceland, Lidl, Morrison's and Tesco.

For this section, information has been gathered from retailers and other sources which include government, farming and other statistics. Emphasis is placed first of all on changes in the number of eggs that will be required in 2025. The impact of these on market shares and the number of laying hens in specific systems is then assessed. These estimates are based on the current size of the national flock and the current sub-division between enriched cage and non-cage systems.

It is recognised that this approach assumes that the current UK output of enriched cage and non-cage eggs is in balance with market requirements, with neither a shortage nor a surplus of eggs. However if the market is currently over or under-supplied, the surplus or shortage must be factored into forecasts of future egg market requirements.

This means that if the size of the national free range laying hen population is currently larger than required (resulting for example in reduced prices and / or cascading of some free range eggs), then increased free range demand in future will partly be met by utilising this current surplus.

4.1 The UK egg sector: current laying hen population and segmentation

Current industry estimates indicate that there are around 35.5 million laying hens in the UK at present, with an approximate segmentation between production systems for the retail sector as a whole as shown in Table 1 below. On the basis, the share for enriched cage shown here (41%) is higher than the 35% currently estimated by the retailers in question.

Table 1: Current market shares for UK retail sector eggs by production systems

Production system	Percentage share	Laying hen numbers (millions)
Enriched cage	41	14.6
Free range (including organic)	57	20.2
Barn	2	0.7
Total	**100**	**35.5**

Percentage market shares taken from Kantar 2016 as reported by BEIS on www.egginfo.co.uk (June 2017)

4.2 Current UK egg output and consumption

Current Defra statistics for quarter one of 2017 (January to the end of March) show that 7.4 million cases of eggs were packed at UK packing centres and a further 1.1 million cases were bought by UK egg processors. Based on a combined figure of 8.5 million cases for the quarter, the expected current annual total is therefore around 34 million cases of eggs either packed or processed in the UK each year.

This figure has been cross-checked on the basis of reported egg consumption levels. Current total UK egg consumption (shell eggs and egg products) is estimated to be 189 per person per year. Based on a human population of 65.1 million in the UK, it can be calculated that some 34.2 million cases of eggs would be required to meet annual requirements.

In the estimates and projections that follow, a current output of 34.1 million cases has been assumed, as the mean value between these two calculation methods.

4.3 Current UK egg market segmentation and market shares

The main current outlets for eggs and reported market shares for each are summarised in Table 2 below.

Table 2: Egg market shares for the main outlets and estimated annual throughputs

Market outlet	Market share (% of total)	Calculated current annual throughput of eggs in millions of cases (Based on a total of 34.1 million cases per year)
Retail	54	18.4
Food service	23	7.8
Processing	23	7.8
Total	**100**	**34.1**

Market shares as reported by BEIS on www.egginfo.co.uk (June 2017)

Table 2 (above) shows that the retail sector in total accounts for a market share of 54% of all eggs. Within the retail sector, the six largest companies that have recently made a commitment to the sale of shell eggs from non-cage systems only from 2025 are Aldi UK, ASDA, Iceland, Lidl, Morrison's and Tesco.

According to published statistics[1], these six companies represent around two-thirds (67%) of the overall UK grocery market at present. Whilst some of these retailers may over-trade or under-trade in eggs, this statistic provides a reasonable indicator of the proportion of the retail sector that will be affected by recent egg purchase policy announcements.

The same statistics indicate that the Co-operative, Marks and Spencer, Sainsbury's and Waitrose (companies that already sell only non-cage shell eggs) represent around 30% of the total retail sector. Adding these together, current forecasts therefore indicate that around 97% of the UK retail sector will be purchasing only non-cage eggs from 2025.

[1]www.statistica.com

4.4 Forecasts of UK human population in 2025

Human population in the UK is forecast to increase in the coming years and this in itself will increase requirements for eggs in 2025, assuming no reduction in consumption per person.

As set out in section 4.2 above, the current UK population of 65.1 million provides a baseline figure. According to the Office for National Statistics[2], the UK population is expected to reach 69.4 million in 2025, an increase of just over 6% compared to the present, based on annual population increases in the region of 0.8%. This forecast change in human population has been used in the projections for 2025 which follow.

[2]www.ons.gov.uk

4.5 Current retailer purchase of enriched cage eggs

Table 3 overleaf estimates the number of enriched cage eggs sold by the retailers in question, comparing the current situation (2017) with a forecast for the end of 2024.

In making this comparison, it is assumed that the UK human population will increase to 69.4 million by the start of 2025 (as above). On this basis alone, the forecast annual retail sale of eggs would increase from 18.4 million cases to 19.5 million cases. It has been assumed that:-

- The percentage of eggs being sold at retail level will be un-changed between 2017 and the beginning of 2025 i.e. 54%;
- There will be no change in the average egg consumption level per person in the UK over the period 2017 to 2025 i.e. 189 per person per year;
- The combined market share of the six retailers named above will stay the same i.e. 67% of the total.
- The overall sales split at present between enriched cage eggs and free range for these six retailers is 35% enriched cage and 65% free range. This is based on the aggregation of responses from individual discussions with retailers carried out as part of this study (see Section 3.1, response to question 2). Individual responses were 'weighted' according to the scale of the retailer.

Table 3: Requirements of six retailers (67% of the retail sector) for enriched cage eggs in 2017 and at the end of 2024

	Current 2017	End of 2024
Annual number of eggs to retail (million cases) – based on Table 2	18.4	19.5*
Percentage of retail eggs to those retailers (6) with non-cage purchase policy from 2025	67	67
Total eggs sold by the above 6 retailers each year (million cases)	12.3	13.1
Percentage of eggs from enriched cage systems	35	35
Total enriched cage eggs (million cases)	4.3	4.6

* *This increase is due to forecast human population increase from 65.1 million to 69.4 million over this period*
Egg numbers have been rounded to the nearest 0.1 million cases

Conclusion: 4.3 million cases of enriched cage eggs which are currently being produced will be displaced at the end of 2024 as a result of six large retailers (representing 67% of the retail sector) adopting a non-cage purchase policy in 2025.

The forecast increase in human population in theory means that an additional 0.3 million cases of enriched cage eggs will be required by retailers between 2017 and 2024. In practice, the percentage share of enriched cage eggs is expected to decrease, hence it is unlikely that any expansion will be required.

4.6 Impacts on the non-cage egg production sector

On the basis of recent discussions with retailers, two key conclusions have been drawn which are relevant to future egg supplies and the balance between different production systems. These conclusions are as follows:-

- Overall, there is likely to be an increase in the percentage market share for free range (and therefore in the number of free range eggs sold) for these six retailers between 2017 and 2025. This will be a consumer-led 'voluntary' change, not directly linked to changes in retailers' egg purchase policies;

- At present, retailers generally expect that barn eggs will substitute for the enriched cage eggs that they are still selling in the run-up to 2025, when their changed purchase policies take effect.

The implications of these two points are therefore different for the free range sector and for other parts of the egg industry. For that reason, they are considered in the following pages.

4.7 Increased requirements for free range eggs

As shown in section 3.1 (question 3), retailers generally – but not unanimously – predicted that their sales of free range eggs would increase between 2017 and 2025. Sales of enriched cage eggs would therefore decrease on a pro rata basis.

At present, the split between free range and enriched cage for these retailers is estimated to be 65:35 on a percentage basis. Some retailers considered that the market share for free range could grow by at least 10% between 2017 and 2025 although some others considered that there would be little or no growth in free range.

On this basis, Table 4 opposite assesses the impact of both a five and a ten percentage point change in market shares for free range between 2017 and 2025. Whilst these cannot be considered 'definitive' forecasts (e.g. for the reasons stated in section 3.1), they are thought to represent likely scenarios on the basis of these retailers' current views.

One additional scenario (+15% increase in free range) has also been included. This could account for a possible increase in free range sales in 2025 when customers are offered a choice between barn and free range only. Alternatively, it could help to reflect the possible impact of policy changes made by other buyers in 2025. These scenarios mean that the overall free range share for these retailers would increase to 70% (+5%), 75% (+10%) or to the equivalent of 80% by 2025.

Table 4: The impacts of projected changes in the market share for free range eggs (+5%, +10% and +15%) between 2017 and 2025

	2017	2025 +5% growth Scenario 1	2025 +10% growth Scenario 2	2025 +15% growth Scenario 3
Market share for free range (%)	65	70	75	80
Total eggs sold by 6 key retailers (all systems, million cases)	12.3	13.1	13.1	13.1
Free range sales (million cases of eggs)	8.0	9.2	9.8	10.5

Scenarios for 2025 are based on an expected UK human population increase to 69.4 million; egg numbers have been rounded to the nearest 0.1 million cases.

Conclusion: if the market share for free range eggs increases by 5% between 2017 and 2025, then an additional 1.2 million cases of free range eggs will be required each year. This increases to an extra 1.8 million cases and an extra 2.5 million cases (compared to 2017) if increases of 10% and 15% are assumed.

To estimate the number of additional free range laying hens needed to supply these extra eggs, a series of calculations has been made in Table 5. This requires a number of assumptions to be made with regard to egg output per bird and these are set out within the table itself.

Table 5: Estimate of the number of additional free range laying hens required in 2025 to produce the extra eggs required for a 5% and 10% increase in sales from six retailers

	5% growth in free range sales	10% growth in free range sales	15% growth in free range sales
Additional requirement for free range eggs to 2025	1.2 million cases per year	1.8 million cases per year	2.5 million cases per year
Production cycle for free range laying hens - assumed	16-76 weeks	16-76 weeks	16-76 weeks
Turnaround time - assumed	4 weeks	4 weeks	4 weeks
Total cycle length - calculated	64 weeks	64 weeks	64 weeks
Eggs per laying hen to 76 weeks -assumed	325*	325*	325*
Eggs per year (52 weeks) per laying hen place – assumed	264	264	264
Eggs per year per laying hen for retail sale after removal of 10% for quality and weight - calculated	238	238	238
Number of extra free range laying hen places required	1.8 million (1.2 million cases divided by 238 eggs per place)	2.7 million (1.8 million cases divided by 238 eggs per place)	3.8 million (2.5 million cases divided by 238 eggs per place)

* *This figure assumes a small increase in egg output per bird between 2017 and 2025 as a result of genetic advances and various on-farm issues*
Laying hen numbers have been rounded to the nearest 0.1 million birds.

Conclusion: An extra 1.8 million free range laying hen places will be needed if the average market share for free range egg sales increases by 5% for the six key retailers in question. This increases to an extra 2.7 million or an extra 3.8 million free range laying hens if a 10% or 15% increase occurs.

4.8 Replacement of enriched cage eggs with barn production

Based on the current views of retailers, it is expected that barn egg production will fill the vast majority (if not all) of the value line offer provided by these retailers in 2025, when enriched cage eggs will no longer be sold. However as noted in previous sections, the demand for value eggs is expected to decrease between 2017 and 2025 due to further growth in free range egg sales.

To assess the scale of the market for barn eggs in 2025, three possible scenarios are presented in Table 6 which match the free range scenarios in Table 5. These assume that the value egg market share decreases from 35% to 30%, 25% and 20% by 2025 (pro rata reductions if free range increases from 65% to 70%, 75% or 80%).

Table 6: Effect of three scenarios on future laying hen requirements for 'value' eggs produced in barn egg systems by 2025

	2025 Scenario 1 Value eggs from barn systems	2025 Scenario 2 Value eggs from barn systems	2025 Scenario 3 Value eggs from barn systems
Total eggs sold by 6 key retailers (million cases)*	13.1	13.1	13.1
Market share for value eggs (%)	30	25	20
Value egg sales (million cases)	3.9	3.3	2.6
Eggs per laying hen for retail sale after removal of 10% for quality and weight (based on Table 6,)**	238	238	238
Number of barn laying hen places needed to meet value egg requirements	5.9 million	5.0 million	4.0 million

* *2025 scenarios assume a human population increase to 69.4 million*

** *It is assumed that egg output per bird for barn production will be the same as for free range (see Table 5)*
Egg numbers have been rounded to the nearest 0.1 million cases, laying hen numbers have been rounded to the nearest 0.1 million birds

Conclusion: In order to meet the value egg requirements of these retailers in 2025, it is estimated that between 4.0 and 5.9 million barn egg production places will be required, depending on whether value line products represent 20%, 25% or 30% of the market at that time.

4.9 Summary of impacts on free range and barn egg requirements in 2025

The key implications of the various scenarios set out in this section with regard to these six retailers are presented in Tables 7 and 8 below.

Table 7: Summary of likely changes to free range egg production places in the UK to 2025

Scenario	Rationale	Impact on free range production
Free range egg sales to these retailers (6) increase by 5% between 2017 and 2025	Continuation of recent consumer trends – low estimate	An extra 1.8 million free range production places needed in UK
Free range egg sales to these retailers (6) increase by 10% between 2017 and 2025	Continuation of recent consumer trends – medium estimate	An extra 2.7 million free range production places needed in UK
Free range egg sales increase by the equivalent of 15% in 2025, compared to 2017	Continuation of recent consumer trends plus allowance for additional sales through other outlets	An extra 3.8 million free range production places needed in UK

Table 8: Summary of likely changes to barn egg production places in the UK to 2025

Scenario	Rationale	Impact on free range production
Value egg sales by these retailers (6) decrease by 5% between 2017 and 2025	Change in retailer purchase policy to non-cage met by barn production (30% of retailers' egg sales)	An extra 5.9 million barn egg production places needed in UK (substitution for enriched cage eggs)
Value egg sales by these retailers (6) decrease by 10% between 2017 and 2025	Change in retailer purchase policy to non-cage met by barn production (25% of retailers' egg sales)	An extra 5.0 million barn egg production places needed in UK (substitution for enriched cage eggs)
Value egg sales decrease by a total of 15% in 2025, compared to 2017	Change in retailer purchase policy to non-cage met by barn production (20% of retailers' egg sales)	An extra 4.0 million barn egg production places needed in UK (substitution for enriched cage eggs)

CAPITAL AND HOUSING IMPLICATIONS

5.1 Free range production

The capital, building and land implications of the three scenarios for free range production (see Table 7) are set out in Table 9 overleaf. Typical unit sizes, current capital costs and land areas per laying hen have been assumed although it is accepted that actual figures will vary. In particular, it is very likely that there will be changes to capital costs, due to price inflation and / or to currency exchange rate fluctuations over the period 2017 to 2025.

Table 9: Free range sector implications of three possible scenarios for 2025

	2025 Scenario 1 5% free range growth compared to 2017	2025 Scenario 2 10% free range growth compared to 2017	2025 Scenario 3 15% free range growth compared to 2017
Additional free range egg production places needed (millions)	1.8	2.7	3.8
Number of extra free range houses (assuming 16,000 per house)	112 houses	169 houses	237 houses
Area of extra land needed for ranging (assuming 2,000 hens per hectare)	900 hectares	1,350 hectares	1,900 hectares
Capital cost for new buildings and equipment needed (assuming £32 per bird, no allowance for land purchase price or land rental)	£58 million	£86 million	£122 million

Conclusion: If 5% free range growth is realised between 2017 and 2025 by the six retailers who have recently announced a non-cage purchase policy, the aggregate capital cost is likely to be around £58 million, with an extra 112 houses (16,000 bird capacity) being needed. For a scenario with 10% free range growth forecast, the total capital cost increases to £86 million with an extra 169 houses needed. For a 15% increase, the equivalent figures are £122 million and 237 houses.

5.2 Barn egg production

The capital, building and land implications of the three scenarios for barn egg production (Table 8) are set out in Table 10 overleaf.

In practice, the financial implications here will be dependent upon whether barn production systems are built new or whether they are converted from existing enriched cage units. For conversions, existing buildings and some equipment could be re-used and so costs would be lower. Recent industry figures suggest current conversion costs to barn of £10-15 per bird, with new buildings for barn production priced at £25 per bird. As for free range, it is very likely that capital costs will change between now and the end of 2024.

To assess the likely costs of the growth in barn egg production (Table 10), two different sets of assumptions are made. The first is based on all barn houses being converted from enriched cage systems. A cost per bird for conversions which is at the high end of the above range (£15 per bird) is included on the basis that some or all retailers may specify housing requirements which add to capital costs. The second is based on the assumption that 50% of the barn egg systems will be converted from enriched cage housing (again, at a cost of £15 per bird) whilst the other 50% will be new buildings at £25 per bird.

Table 10: Barn sector implications of three possible scenarios for 2025

	2025 Scenario 1 Value eggs represent 20% of sales, all supplied by barn production	2025 Scenario 2 Value eggs represent 25% of sales, all supplied by barn production	2025 Scenario 3 Value eggs represent 30% of sales, all supplied by barn production
Additional barn egg production places needed (millions)	4.0	5.0	5.9
Capital cost assuming conversion at £15 per bird	£60 million	£75 million	£89 million
Capital cost assuming 50% conversion at £15 per bird and 50% new buildings at £25 per bird	£80 million	£100 million	£118 million

Conclusion: Additional retailer requirements for barn egg production are likely to cost between £60 million and £89 million on the basis of conversions from existing enriched cage systems priced at £15 per bird. If requirements for barn eggs are met by a 50 / 50 split between conversions and new build, capital costs are likely to be between £80 million and £118 million, assuming a market share for value eggs (supplied by barn) of between 20 and 30%.

ADDITIONAL CONSIDERATIONS

Two additional and very important issues have been considered with regard to implementation of the egg supply changes needed between 2017 and 2025. These relate to i) the need to obtain planning permission and any other consents and ii) the management of egg supplies in the run-up to 2025. These are briefly considered in the sections below.

6.1 Planning and other consents

Planning permission will always be needed for new developments, whether for free range or barn egg production. Differences between countries (England, Wales etc.) and within countries (e.g. county differences within England) in terms of planning requirements could mean more of the future development required being located in certain areas, in preference to others.

Experienced planning specialists confirm that the planning process for poultry production is getting more difficult and this seems set to continue in the coming years. Whilst gaining permission for required developments may still be expected in the end, the process is generally taking more time and becoming more expensive. The burden of information required is becoming greater.

In England, it is reported that there is currently substantial variation in the cost of planning applications. In some areas, detailed technical reports are required and thus the costs are relatively high. In other areas though, the requirements are much less onerous and thus costs are lower.

In Wales, planning permission for new poultry developments is now generally considered expensive and difficult. The planning system in Wales is very different to England, with much more time being required for mandatory pre-application consultations. Because of this, the overall process currently takes much longer to complete in Wales than in England.

Re-development of existing sites is generally much easier in planning terms than new developments or expansion. Conversion of enriched cage units to barn systems should fall into this category. Whilst it will generally be necessary to gain planning permission and to provide reports which

demonstrate the benefits of what is proposed over what is currently provided, no particular problems are envisaged for conversions which do not include increased bird numbers.

If the need for more free range production is met (at least in part) by expansion of existing sites, it is likely that more existing units will cross the 40,000 bird place threshold, which will mean that they will require an environmental permit in order to operate. This will represent additional costs in all cases and for some, these may be considerable. They may also be potentially difficult to overcome, particularly if there are sensitive and protected environmental sites close-by.

6.2 Management of egg supplies

Management of egg supplies in the run-up to 2025 has been identified as a potentially difficult issue by more than one retailer.

Assuming that the switch in value eggs is entirely or mainly to barn egg production, there will need to be a build-up of barn egg supplies prior to 2025. Retailer requirements for enriched cage eggs will cease in 2025, but if these eggs are offered for sale prior to 2025 - alongside higher-priced barn eggs - a substantial proportion of customers will inevitably opt for the cheaper option.

This may mean a surplus of barn eggs prior to 2025 and possibly therefore some cascading. The relative pricing of enriched and barn eggs prior to 2025 (or when eggs from enriched cages are finally phased out) could be an important discussion point between the retailer, the packer and the producer. Alternatively, cage eggs could be replaced by barn on a store-by-store basis.

If managing egg supplies is recognised to be a difficulty at the time of the changeover, it may be beneficial to conduct the switch from enriched cage to barn supplies over as short a period as possible. This would reduce the period of time when both barn and enriched cage eggs are available. However, this could be expected to lead to a number of logistical problems, particularly if houses are being converted from enriched cages to barn systems. This process would require extended turnaround times between flocks (likely to be several months) and thus a more staged approach would be inevitable.

There would also be practical difficulties for system manufacturers and installers who may not have the resources for very rapid and synchronised completion of the task.

CONCLUSIONS

7.1 Retailers' intentions

- Most of the retailers involved in this study stated that their sales of eggs from enriched cage systems are currently between 30 and 40% of the total. Barn egg production hardly features and so the market share for free range (including organic) is currently between 60 and 70%.
- Retailers generally reported a gradual increase in their percentage share of free range egg sales at the expense of enriched cage eggs in recent years. Forecasts for the future were mixed. Some suggested an increase of 10% or more between 2017 and 2025. Others thought that future growth could be curtailed or even reversed.
- At present, retailers generally do not expect to bring forward the date when sales of enriched cage eggs are discontinued.
- Retailers generally see the benefits of a value option for eggs and most expect that barn egg production will fulfil this requirement in 2025. At present, not all retailers have ruled out the possibility of switching to free range only.
- Key issues in relation to future barn egg production are i) the nature of the system; ii) its long term future; iii) consumer awareness and reaction and iv) pricing in comparison with other systems.
- Retailers' non-cage commitment generally applies to own-brand shell eggs only. Tertiary or packer-branded eggs are not considered an option for the future, with the possible exception of short-term supplies to manage change at the end of 2024. None of the retailers have made a commitment to non-cage production for their egg products.

7.2 Forecasts for egg supply

- Human population in the UK is forecast to increase from 65.1 million to 69.4 million between 2017 and 2025. This alone will increase requirements for eggs in future, assuming levels of consumption per person are maintained.
- The retailers who have recently committed to a non-cage purchase policy represent around two-thirds (67%) of the overall UK grocery market and this has been assumed to be their overall share of the retail sector for eggs.
- Around 97% of the UK retail sector is expected to be purchasing non-cage eggs only from 2025, given that some already have this policy in place now.
- Some 4.3 million cases of enriched cage eggs which are currently being produced will be displaced at the end of 2024 as a result of 67% of the retail sector adopting a non-cage purchase policy in 2025.
- The majority of this total seems set to be replaced by barn egg production. It is estimated that between 4.0 and 5.9 million extra barn places will be required in 2025 if these retailers' value line eggs represent between 20 and 30% of the total at that point.
- If the market share for free range eggs sold by these retailers increases by 5% between 2017 and 2025, an additional 1.2 million cases of free range eggs will be required each year. This increases to an extra 1.8 million cases and an extra 2.5 million cases if increases of 10% or 15% are assumed.

- It is important to note that these increases would be due to gradual changes in buying habits which are not directly due to the changing purchase policies of retailers. On this basis however, it is calculated that:-
    - An extra 1.8 million free range laying hen places will be needed if 1.2 million more free range eggs are required each year (+5% growth) from 2025.
    - An extra 2.7 million free range laying hen places will be needed if 1.8 million more free range eggs are required each year (+10% growth) from 2025.
    - An extra 3.8 million free range laying hen places will be needed if 2.5 million more free range eggs are required each year (+15% growth) from 2025.
- The costs and new housing requirements associated with the above increases are summarised below:-
    - Growth of 5% in the free range sector would cost around £58 million in new housing and equipment, with the equivalent of some 112 new houses with 16,000 bird capacity being required.
    - Growth of 10% in the free range sector would cost around £86 million in new housing and equipment, with the equivalent of some 169 new houses with 16,000 bird capacity being required.
    - Growth of 15% in the free range sector would cost around £122 million in new housing and equipment, with the equivalent of some 237 new houses with 16,000 bird capacity being required.
- For the additional barn egg production systems required, total capital costs are expected to be between £60 million and £89 million if this is all in the form of conversions from enriched cages. This would increase to between £80 million and £118 million if there are equal quantities of conversions and new-build facilities.

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